A Simple Proof of the Gan-Loh-Sudakov Conjecture

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Abstract

Gan, Loh, and Sudakov conjectured that the graph on n vertices with maximum degree at most Δ that maximizing the number of t-cliques is a disjoint union of many $\Delta + 1$ cliques and a smaller clique. They also proved that the conjecture in true for all $t > 3$ if it's true for $t = 3$. Chase proved the case $t = 3$. We simplified and generalized the proof of Chase and give a unified proof for all $t \geq 3$. This is a joint work with Zichao Dong.

Keywords: Gan-Loh-Sudakov Conjecture, Extremal Graph Theory, Clique

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